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Obeying the rules of the road: Procedural justice, social identity and normative compliance

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Abstract

Why do people comply with traffic laws and regulations? Road traffic policing tends to be premised on the idea that people comply when they are presented with a credible risk of sanction in the event of non-compliance. This contrasts with a normative account of compliance offered by procedural justice theory, in which compliance is encouraged by legitimate legal authorities. In this paper we compare these two accounts of compliance. We find evidence that both instrumental and normative factors explain variance in motorists' self-reported propensity to offend. Extending the standard procedural justice account, however, we also find that it is social identity – not legitimacy – that forms the 'bridge' linking procedural fairness and compliance. Fair treatment at the hands of police officers seems to enhance identification with the social group the police represent; in turn, identification seems to motivate adherence to rules (laws) governing social behavior. Our findings have implications not only for understandings of legal compliance, but also conceptualization of why procedural justice motivates such compliance, and the role of procedural justice in promoting social cohesion.

Introduction

The well-known harms of traffic offending have triggered a range of policy developments in recent years. In Scotland – the focus of this study – there were 12,575 road casualties (injuries) in 2012, including 172 deaths and 1,959 serious injuries (Transport Scotland 2013). Driver behavior, particularly illegal driver behavior, is responsible for some of these casualties, with research suggesting speeding is a contributory factor in a significant proportion of accidents (Taylor et al. 2000). Year on year figures suggest that between one in seven and one in nine deaths on Scottish roads involve drivers exceeding the legal alcohol limit.¹

Perhaps more than other aspects of legal regulation, the enforcement of traffic laws is premised on an instrumental model of human behavior. Notwithstanding government-led initiatives to convince people of the wrongfulness of drink driving, at the heart of the policing of roads and drivers is a rational choice model of human behavior that proposes (a) that people are motivated to break traffic laws when they gain utility from the illegal act, for example, when they are in a hurry to get somewhere and (b) that they will be deterred from doing so when and to the extent that they believe they will be caught and punished if they do. Thus, the risks posed by drivers who speed, ignore red-lights or drive without due care and attention are thought to be mitigated by the coupling of tools that increase the risk of being caught, such as speed cameras, number-plate recognition devices (Wells 2008) and drink-drive campaigns, with fines, penalty points and threats of severe punishment when people are caught. At the time of writing the UK government is proposing a fourfold increase to the maximum fine available to magistrates to punish those who break speed limits on motorways (up to £10,000, as reported in the Guardian, 10th June 2014).

While the extent to which the severity of potential punishments affects people's choices is open to considerable doubt (Doob and Webster 2003; Pratt *et al.* 2006) – thereby suggesting that increasing the fines available to magistrates for speeding will have little effect – a rational-choice perspective posits that behavior *can* be influenced by raising people's estimates of the *probability* of being caught if they break the law, in some circumstances at least (Nagin 2013). This would indicate that developments such as speed cameras and roadside breath tests (Mazerolle et al. 2011) will deter potential road traffic offenders by increasing the perceived likelihood of punishment.

Indeed, such policies do appear to have had significant effect, with the number of road deaths and overall casualties having fallen significantly in Scotland (Transport Scotland 2013) and across the UK in recent decades, as the use of speed limits, speed cameras and other measures has grown (Richter et al. 2006), albeit that advances in car safety technologies and changing attitudes and behavior in regard to drink driving are also likely to have had an effect. Nevertheless, the message for traffic police appears clear: if you wish to cut traffic offending you need to demonstrate the ability to detect crime and catch offenders. On this account, road users are utility-maximisers who will be prevented from committing driving offences by being shown that they will be caught if they do.

And yet, this is a message that contrasts significantly with the advice offered to police and policy-makers by procedural justice theory, which is premised on a quite different account of offending behavior. Research conducted under the banner of procedural justice has consistently shown that when police officers treat people with fairness, dignity and respect, these individuals are more likely to view police as legitimate, are more likely to say they will help and assist officers in the future, and are less likely to report a propensity to offend. People who believe that justice institutions are rightful holders of power are more likely to be law-abiding because they internalize the moral value that it is just to obey the law (Tyler, 2006a, 2006b), which then has an additional motivational effect on legal compliance, above and beyond the more specific value about the wrongfulness of the particular act (Sunshine & Tyler, 2003; Tyler, 2006a, 2006b; Jackson *et al.*, 2012a). In this body of work the perceived threat of sanction is generally found to be only weakly correlated with compliance (Murphy *et al.*, 2009; Tyler & Jackson, 2014).

¹ See: <http://www.road-safety.org.uk/driving/drink-driving-and-drug-driving/> (last accessed 25/08/14).

What this body of work finds instead is that it is normative compliance – fostered in part by the experience of procedurally fair and legitimate policing – that seems to be a more powerful force than instrumental compliance (Tyler, 2011a, 2011b; Schulhofer *et al.*, 2011). People obey the law because they feel a moral compunction to, not because they are fearful of getting caught and punished. In this paper we apply insights from procedural justice theory to road traffic policing. Our study has three main goals. The first two sit firmly within established aspects of the procedural justice and compliance literatures, albeit that we apply them in a relatively novel context. Analyzing data from a survey of motorists in Scotland – in which all respondents had recently been stopped by the police – we first investigate the extent to which perceptions of the risk of sanction predicts future intentions to commit a traffic offence, adjusting for beliefs about the morality of driver offending behavior.

Second, we assess whether police procedural justice (the quality of the interpersonal treatment and decision-making of officers) is associated with stated propensities to comply with road traffic laws through the intervening influence of police legitimacy. All of the study participants had recently encountered traffic police, meaning we capture not variation in contact with the police but variation in perceptions of the friendliness, professionalism, fairness and communicative abilities of the officers involved in the stop. We link the procedural fairness demonstrated by officer treatment and decision-making to perceptions of police legitimacy, specifically whether the institution has a right to dictate appropriate behavior, and whether police act in ways that normatively justify its power, role and function. In turn, we assess whether legitimacy explains variation in intentions to comply with traffic laws. Because we adjust for people's perception of the morality of speeding and drink driving, as well as the perceived chance of getting caught, the estimated statistical effect of legitimacy on intentions to comply will be independent of the risk of sanction and the morality (or immorality) of the specific act. This is important given the nature of legitimacy, which sits as a superordinate moral value that one should defer to authority 'as part of the obligations associated with citizenship' (Darley *et al.*, 2002: 43), and which represents a sense of authorization and consent.

Our third goal – and most theoretically innovative contribution – is to investigate the role of social identity in the context of a procedural justice account of compliance. Drawing on hitherto under-explored criminological aspects of procedural justice theory, we test a path from procedural justice, via specific identity judgments – as a Scottish citizen who believes it is important that other members of the group see them as law-abiding – to compliance. We also assess whether legitimacy mediates any observed association between identification and compliance.

To anticipate our main findings we conclude that – as in other legal contexts – although instrumental concerns about the risk of sanction are important, normative factors are stronger predictors of intentions to comply with the law. Considering the procedural justice-compliance pathway specifically, we show it is the path from procedural justice to compliance via social identity that retains explanatory power when tested against the standard legitimacy path. While there is a strong bivariate correlation between legitimacy and traffic offending, once we adjust for social identification this association is broken. In this particular context, at least, legal compliance may thus be encouraged by police activity that strengthens people's identification with the social group the police represent, and which activates forms of self-regulation associated with the importance of being – and being seen to be – a group member in good standing.

Moving beyond the immediate context of road traffic laws, we conclude with some consideration not just of the theoretical and empirical place of legitimacy in procedural justice theory, but also the role of the police in strengthening or undermining people's commitments to superordinate groups and the normative reproduction of order (funneled through the sense of self-worth that emanates from seeing oneself as a law-abiding member of the community).

The paper proceeds in five parts. Parts 1 and 2 outline the hypothesized pathways between procedural justice, legitimacy, cooperation and compliance, and the role that social identity may play in this context, while part 3 describes our data and analytical techniques. Results are presented in part 4 with discussion and concluding comments in part 5.

1. Procedural justice, legitimacy and compliance

Legitimacy exists in the eyes of citizens partly when they believe the institution has a positive right to dictate appropriate behavior and when they feel that they have a corresponding duty to obey its instructions. But legitimacy ‘in the eyes of the beholder’ – i.e. the citizen subject to justice institution authority – should also be seen as a response to the claim that power is rightfully held and exercised. The right to power exists in the eyes of citizens partly when they believe the institution concerned acts in ways that accord with appropriate moral values and conduct (Jackson *et al.*, 2011; Hough *et al.*, 2013a, 2013b) – that its actions are morally justified and appropriate to the circumstances. Legitimacy is thus present when citizens recognize the authority of justice institutions to dictate and enforce appropriate behavior, and when they believe that the power those same justice institutions wield is normatively justified (because authority figures act morally and lawfully).²

At the heart of procedural justice theory is a psychological link between the way in which power-holders wield their authority – specifically how they treat subordinates and the nature of the procedures that guide their decision-making – and the way in which subordinates process the claims the power-holders make regarding the rightfulness of their power (Tyler & Huo, 2002; Sunshine & Tyler, 2003; Tyler, 2006a, 2006b). Study after study has suggested not only that procedural justice generates legitimacy, but that the two key issues affecting the generation of procedural justice are fairness of decision-making processes (i.e., processes that are neutral, transparent and allow voice or the active participation of all the involved parties) and fairness of interpersonal treatment, sometimes referred to as interactional justice (i.e., treatment with respect and dignity). Of particular importance is the idea that the exercise of authority via the application of fair process strengthens the social bonds between subordinates, power-holders and the wider social group. Procedural justice encourages not just the belief that institutions have “a just, fair, and valid basis of legal authority” (Papachristos *et al.*, 2012: 417) but also identification with the group that the authority represents (typically assumed to be the state, where identification activates the roles and responsibilities associated with being a law-abiding citizen – Bradford *et al.* 2014).

According to procedural justice theory, then, the way in which power-holders treat subordinates conveys status and identity relevant information. When treatment is fair and respectful, this encourages people to merge their sense of self with the wider group the power-holder represents. Such identification affects behaviour because people embedded in social groups are motivated to act in ways that satisfy the requirements of particular roles and relationships within the group – they draw value, worth and status from those roles and relationships (Tajfel & Turner, 1979). Conforming to the expectations of social roles enables people to ‘to establish and maintain a satisfying self-defining relationship to another person or a group’ (Kelman, 1958: 53). And, once such a process is under way, abiding by the norms and values attached to reciprocal-role relationships within social groups becomes important to people not only because they agree with the norms and values – they internalize the values of the group to which they feel they belong and act in ways that they find intrinsically rewarding – but also because they gain value and worth from the self-defining relationship with other group members and the group itself (Tyler & Blader, 2000, 2003). Conforming to group norms and values is a way of demonstrating and reproducing group membership. On this account, the legitimacy of group authorities is, in part, a social norm to which group members are motivated to adhere (Horne 2009).

A good deal of research supports the idea that perceptions of the legitimacy of the institutions of justice then play a role in normative compliance with rule and laws. A legitimate authority commands consent (a sense of obligation to obey) that is grounded in legality and moral validity (Tyler, 2006a, 2006b; Hough *et al.*, 2013a, 2013b). Legitimacy is an accorded status and a normative social relation that has a motivational force. While most

² This accords with the following definition of legitimacy given in the Committee to Review Research on Police Policy and Practice (2004: 291): ‘...the judgments that ordinary citizens make about the rightfulness of police conduct and the organizations that employ and supervise them.’

people obey most laws, most of the time, because they believe the actions prescribed in law are morally wrong (or have simply acquired the habit of compliance), legitimacy increases compliance *over and above* the specific moral judgment about the rightfulness of a particular action (and one's perception of the risk of sanction, see Sunshine & Tyler, 2003; Jackson *et al.*, 2012a; Papachristos *et al.*, 2012a; Tyler & Jackson, 2014). When citizens recognize the legitimacy of an institution, they believe that the institution has the right to prescribe and enforce appropriate behavior and they feel a corresponding duty to bring their behavior in line with that which is expected. Legitimacy leads to a respect for legal guidelines for action that dictates what behavior is appropriate and personally binding.

2. Procedural justice, social identity and legal compliance

Most of the work on procedural justice and legitimacy leaves implicit the social group that police fairness or unfairness can indicate membership of or exclusion from. In this paper we apply the procedural justice framework to a new context – traffic compliance in Scotland. But we also specify the social identity concerned – as membership (or otherwise) of the nation state and citizenship in good standing. A central objective of the current study is thus to examine in detail the role that social identity plays in legitimacy and legal compliance.

There are (at least) two contrasting accounts of the place of social identity in procedural justice theory that – while premised on the same underlying idea and therefore not directly contradictory – stand in some distinction from one another. Both accounts position the police as a 'proto-typical group representative' (Sunshine and Tyler 2003) that is strongly symbolic of community, nation or state (Bradford *et al.* 2014; Reiner 2010; Loader and Mulcahy 2003) and thus capable of signaling to members of these social groups authoritative messages concerning their inclusion, status, and value within the group. Both also posit that people value procedurally fair policing because it contains positive identity relevant information – in essence it makes them feel they belong. Unfair policing, by contrast, serves to denigrate and exclude: a key reason why people seem to react so strongly to police activity they perceive to be unjust is that experiencing injustice challenges their sense of self in a quite fundamental manner; it indicates exclusion from superordinate groups with which most people strongly identify.

The first model of procedural justice – the group value model – states that police procedural justice will be differentially salient to people depending on the extent of their identification with the group police represent; the strength of identification will affect the degree to which, for example, procedural justice predicts legitimacy (de Cremer and Tyler 2005). On this account social identity is primarily *prior to* the experiences of authorities, and an important implication is that identity will *moderate* the link between procedural justice and group-related attitudes or behaviors, such as legitimacy judgments, cooperation, or compliance.

By contrast, a second model of procedural justice – the group engagement model – stresses the ability of group representatives to actively shape the social identities of group members. Here, procedural justice (or injustice) at the hands of authority figures *alters* people's social identities, with fairness strengthening (and unfairness weakening) identification with the group. The group engagement model therefore "assumes that procedures influence people's social self by shaping their self-definition" (de Cremer and Tyler 2005: 162). Social identity thus *mediates* the link between procedural justice and group-related attitudes or behaviors – people's identities are not necessarily prior to their experiences of the behavior of group authorities but are actively influenced by such experiences. Here, procedural justice theory shares with symbolic interactionists (Erickson 1975) and social identity theorists more widely (Burke and Stets 2009) the understanding that social identity is not fixed but fluid and open to change across the life course.

In this paper we take the second approach to thinking about procedural justice and social identity. Following recent research on procedural justice and social identity in London (Bradford 2014) and Australia (Bradford *et al.* 2014) – as well as cognate approaches that have examined group level processes and identity formation in wider policing contexts (e.g. Stott *et al.* 2012; Blackwood *et al.* 2013) – we assume that policing has an active and

formative association with the identity judgments of people exposed to police activity (Blader & Tyler 2009). We proceed on the basis that procedural fairness can strengthen identification with the group the police represent, which in turn can motivate legitimation of group authorities (i.e. the police). When people identify more strongly with a group, they are motivated to support and legitimize its authorities, and to cooperate within it and on its behalf (Bradford *et al.*, 2014). This ‘affective’ account of the importance of procedural justice complements a more ‘evaluative’ account, under which people use procedural justice as a way of assessing the normative probity of police behavior, and grant legitimacy on the basis that they perceive police to be ‘doing the right thing’. A recent paper investigating these relationships found evidence to suggest procedural justice has both an affective (mediated by social identity) and an evaluative (direct) association with legitimacy (Bradford *et al.*, 2014).

We described above the idea that the legitimacy of legal authorities can influence compliance with the law. Social identity may therefore have an association with compliance *via* legitimacy. Following Tyler (2009), however, we suggest here that social identity may *directly* shape such compliance. This is a notion that – of course – is a mainstay of various forms of labeling theory. A significant volume of research suggests ‘system contact’, such as involvement with the youth justice system, or experiences of stop and search, is as likely to result in enhanced as in diminished offending (e.g. Huizinga *et al.* 2003; McAra and McVie 2007, 2012; Wiley and Esbenson 2013). The explanation offered is that such contact may promote ‘delinquent’ identities (that reject mainstream identification with the roles and responsibilities of a ‘law-abiding citizen’). The action of criminal justice agents can affect people’s identities – label them – in ways that do not encourage compliance with superordinate group norms, as the positive aspects of the group engagement model would suggest, but rather that turn them toward deviant, law-breaking behavior.

The procedural justice model offers a way of further exploring why system contact can encourage offending (a broadly comparable alternative is Sherman’s (1993) defiance theory). Consider, for example, police stops. Wiley and Esbensen (2013) suggest that being stopped by the police not only does not deter people from offending, but may, by labeling them as offenders, actually increase their likelihood of committing crimes in the future. However, it may be that it is not the simple fact of being stopped that leads to deviancy amplification but, rather, the sense of unfairness that so many experience when this occurs (Bowling and Philips 2002). Procedural injustice signals to people that they have low status or do not belong to the group the police represent: this may lead not only to de-legitimation of the police – one path to an increased likelihood of offending – but also a turning away from relevant social groups and, concomitantly, a re-focusing of identity onto alternate sources of value and meaning, with different relationships with offending behavior; that is, affiliation with ‘deviant’ identities. Alternatively, exclusion from a superordinate group may generate a sense of anomie, and a loosening of normative restraints on behavior.

Why might identification in turn shape compliance? Identification involves the transition of self-perception from individual to group, transforming goals or motives. People who identify more strongly will place greater weight on the outcomes for the group as a whole; in criminal justice contexts this implies to act lawfully is not only to act in line with one’s own moral values, it is also to demonstrate and develop a sense of status and self-worth attached to the roles and responsibilities that define shared group membership. One way of acting in group-serving ways is to abide by the rules and laws of the group; one acts like a law-abiding citizen because one identifies with the roles, duties and responsibilities attendant on such an identity. Analysing Afrobarometer data collected in 2000, Tyler (2009) first linked people beliefs about the procedural fairness of South African society and its institutions to superordinate identification (feeling proud to be South African, for instance), and second linked identification to deference to the law (getting services like electricity or water without paying, for example). Another possibility is that greater commitment to the group leads to greater aversion to behaviours that might endanger other group members – stronger social ties implies that the needs and wishes of others in the group become relatively more important.

Work on procedural justice in other contexts – i.e. work organizations – has underlined the centrality of group identity in the way people think, and act, in social settings.

Such research has, moreover, linked experiences of the behavior of authority figures (employers or managers) via the effect these have on the identities of group members (employees), to cooperative or group-oriented behaviors in the workplace (Blader and Tyler 2009; Tyler and Blader 2000; 2003). People are motivated to support and work with groups within which they feel valued and included, and strong identification with a social group leads people to internalize the values it represents: its goals become their own (Bradford et al. 2013).

An important idea underlying this discussion is that *identities* are inextricably linked to *roles* (Burke and Stets 2009): to identify as a member of a particular group is also to accept a particular set of roles. Equally, one way to *be* a group member, to demonstrate inclusion and status to self and others, is to enact these roles. We noted above that the relevant group, in the context of policing, can be defined as the nation-state as a community of individuals and social groups, of which police officers are important representatives. In as much as police officers treat people in a procedurally just manner, social identity theory would suggest those individuals are then motivated to take on the ‘role’ of citizen – they identify as citizens, and express and fulfill the normative expectations attendant to this role. Police can thus provide to people experiences that promote inclusion and define roles in line with and conducive to group norms and rules, or experiences that undermine such identities and diminish adherence to such roles.

3. Study objectives

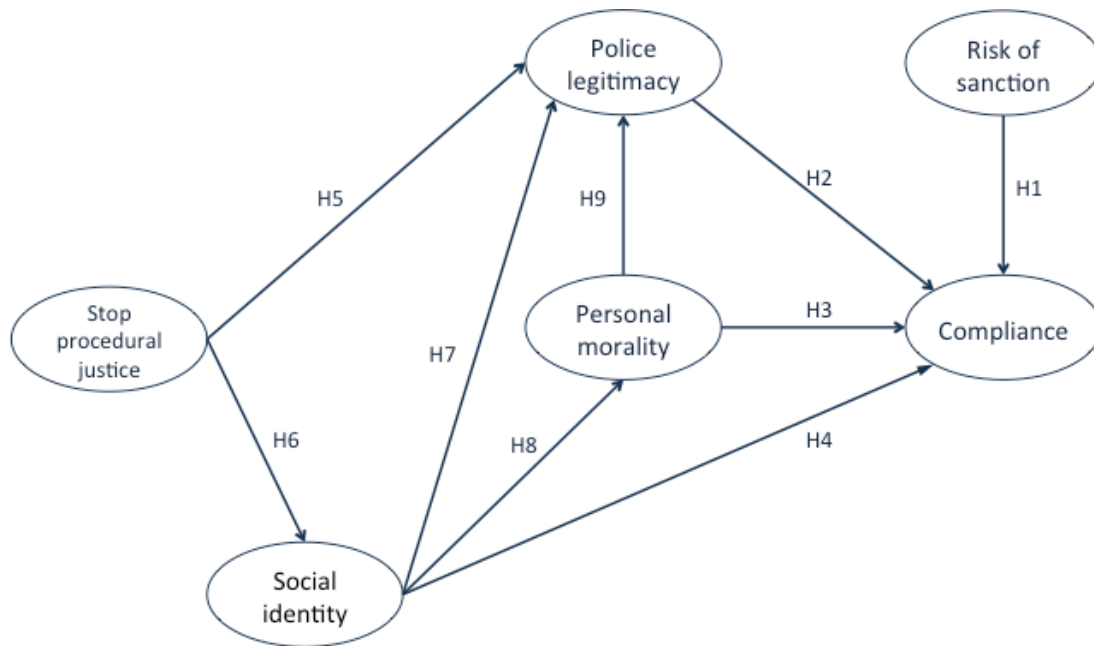
Figure 1 summarizes the hypothesized pathways to compliance suggested by the discussion above. Hypotheses H1 to H4 concern direct predictors of compliance behaviors. H1 is that people who perceive a greater risk of sanction will be less ready to break road traffic laws. H2 represents the path from police legitimacy to compliance, and, following other studies (e.g. Sunshine & Tyler, 2003; Murphy et al., 2009; Jackson et al. 2012a; Tyler & Jackson, 2014), we hypothesize that people who grant the police more legitimacy – and therefore the right to mandate proper behavior – will be less likely to break the law. H3 reflects the role of personal (legal) morality, and suggests that those who see it as more wrong to break specific laws will be less likely to do so. H4 brings in the role of group membership. We expect that, conditioning on the other variables shown, people who identify more strongly with the group the police represent – that is, in this case, the ‘Scottish community’ – will be less likely to break the laws that govern that group.

Hypotheses H5 and H6 concern the role of procedural justice. Recall that all the individuals included in the current study had recently experienced a road traffic stop. H5 proposes that, in line with the general predictions of the procedural justice model, those who felt more fairly treated by police during this stop will grant the police more legitimacy when subsequently surveyed. H6 suggests that fair treatment during the stop will also be associated with a stronger affiliation with the social identity or group represented by police.

Hypotheses H7 and H8 expand on the role of social identity in procedural justice theory. H7 proposes that independent of the association between procedural justice and legitimacy, individuals who identify more strongly with the group the police represent will grant it more legitimacy. Stated at the simplest level, we are motivated to legitimate the authorities of groups to which we feel we belong. H8 proposes that social identity plays a role in shaping personal (legal) morality. There are two reasons for suggesting this path. One the one hand, stronger identification with social groups may encourage internalization of group norms and values (of which obeying the law may be an important example). On the other hand, identification may strengthen subjective bonds with other group members and encourage adherence to rules designed to prevent harm.

Finally, H9 proposes what is in the current context more of a statistical control mechanism. Following Jackson et al. (2012a), we hypothesize that, all else equal, people who feel breaking the law is ‘more wrong’ will grant the police, upholders of the law, more legitimacy.

Figure 1. Hypothesized pathways to compliance



The model shown in Table 1 also suggests indirect paths. Procedural justice may predict legitimacy directly and indirectly through identification. In turn, identification may predict compliance directly and indirectly through legitimacy. Prior work has suggested that procedural justice enhances identification with the roles and responsibilities of the ‘law-abiding citizen,’ in turn motivating legitimization of the police as a source of authority linked to nation and state (Bradford *et al.*, 2014). This suggests that some of the association between identification and compliance may be mediated by legitimacy; but why might identification predict compliance, even after adjusting for legitimacy? The role of legitimacy relates to consent: one accepts the right of power-holders to expect obedience and one feels a sense of social, legal, or moral duty: by contrast, the role of social identity may relate to group welfare, and the strength of bonds between the individual and other group members.

4. Data and Methods

In this paper we use data from the Scottish Community Engagement Trial (ScotCET). Funded by the Scottish Government to inform their Justice Strategy for Scotland, the ScotCET randomized field trial aimed to replicate the Queensland Community Engagement Trial (QCET) (see Mazerolle *et al.* 2011, 2012), which tested whether the introduction of improved mechanisms for communicating procedural justice during routine encounters between police and members of the public could influence public opinion and promote legitimacy (see MacQueen and Bradford 2014, *forthcoming*).

Like QCET, the trial focused exclusively on road policing, and vehicle stops conducted by the 20 road police units within Police Scotland during the Festive Road Safety Campaign 2013/14 (which addressed drink-driving and vehicle safety) as the ‘routine encounters’. The 20 road police units were divided into 10 matched pairs (‘blocks’),

according to shared geographical and practice characteristics. Within each pair one unit was randomly assigned to the control group and the other to the treatment group. The control group conducted 'business as usual' traffic stops throughout the campaign period. The treatment group received basic training on the concept of procedural justice and how to successfully apply it during routine encounters with the public. This was implemented via the incorporation of key messages into encounters intended to communicate or enable core aspects of procedural justice: dignity and respect; equality; trustworthy motives; neutrality of decision making; clear explanation; and the opportunity for citizen participation or 'voice'. Drivers were also given leaflets reinforcing these key messages.

All drivers stopped were issued with a self-completion questionnaire with a prepaid envelope to return to the research team and an online alternative offered. In total 816 completed questionnaires were returned (overall response rate - 6.6%). Some 63 per cent of respondents being male, and the mean age of the sample was 50.7 (SD=14.8, min=17, max=87). Three quarters (75%) of respondents were home owners; 40 per cent had a university degree or higher, while 12 per cent reported holding no qualifications. The majority were employed (71 per cent), and 73 per cent were married or in a relationship.

Measures

Confirmatory Factor Analysis (CFA) in Mplus 7.1 was used to construct and validate measures of the key concepts of interest. The measures are described briefly below; Appendix Tables 1 and 2 show question wordings and factor loadings and a correlation matrix, respectively. Note that all latent variables were scored such that high equaled more (more legitimacy, more offending, etc.).

Our ultimate response variable, and measure of compliance, was future *traffic offending*. This was based on two items 'All things considered, how likely are you in the future to ...' 'break the speed limit while out driving' and 'jump a red light if you are in a hurry', with four-point response scale ranges from 1 'very likely' to 4 'not likely at all'. Some 26 per cent of respondents stated they would be very or fairly likely to break the speed limit in the future (22 per cent stated this was not likely at all). Only 4 per cent of respondents said they would be very or fairly likely to jump a red light (68 per cent said not likely at all).

We specified four main explanatory variables. The first was *stop procedural justice* (i.e. respondents' judgments about the fairness of their recent road traffic encounter). This was a factor score based on six items. Respondents rated their experience of the police during the festive road encounter on a four-point Likert-type scale ranging from 'yes, completely' to 4 'no, not at all', evaluating separately whether police were: approachable and friendly; helpful; respectful; professional; fair; and clear in explaining why the respondent had been stopped.

Police legitimacy - Factor score based on six items tapping into felt moral obligation to obey the police and moral alignment between oneself and the police, measured on a five-point Likert-type scale ranging from 1 'disagree completely' to 5 'agree completely'. Felt obligation to obey and moral alignment have been found to be distinct yet related components of legitimacy (Jackson et al. 2012a, 2012b; in 27 countries across Europe and beyond, see Hough et al., 2013a, 2013b). In this study we combine into one legitimacy measure to avoid multicollinearity within the SEM (see also Papachristos et al., 2012; Jackson et al., 2013).

Social identity - Factor score based on four items measuring on a four-point Likert-type scale various aspects of Scottish identity: 'I see myself as a member of the Scottish community'; 'It is important to me that others see me as a member of the Scottish community'; 'I see myself as an honest, law abiding citizen'; and 'It is important to me that others see me as an honest, law-abiding citizen'. This is therefore a measure of just one aspect of people's identities, which relates to a social group the police in Scotland can plausibly be said to represent – the community of law-abiding, Scottish, citizens.

Risk of sanction - Factor score based on respondents perceptions of highly likely they were to be caught when breaking the speed limit and when jumping a red light, using a four-point scale ranging from 1 'very likely' to 4 'not at all likely'.

Personal morality with regard to traffic offences was measured by a factor score

based on respondents' assessments (on a four-point scale ranging from 1 'very' to 4 'not at all') of how wrong it is to jump a red-light and to break the speed limit. Compliance is likely to be based in an important sense of morality in relation to the law.

Finally, we also added a measure of *trust in police effectiveness* to the model, a factor score based on six items measuring confidence in the police to: prevent crime, respond quickly to calls from the public; deal with incident as they occur; solve crime; catch criminals; and keep people safe. Responses were recorded on a four-point scale ranging from 1 'very confident' to 4 'not confident at all'. The extent to which beliefs about the effectiveness of the police predict perceived risk of sanction is an important policy question, albeit one that is tangential to our purposes here.

5. Results

Figure 2 shows results from the SEM that allowed simultaneous testing of all our research hypotheses. Taking each part of the model in turn, we find that, first, stop procedural justice had statistically significant and substantively moderate to strong associations with both 'citizen' identity and legitimacy. Stop procedural justice is also strongly correlated with trust in police effectiveness. Recall that the procedural justice questions relate to the specific encounter covered by the ScotCET survey. The effectiveness measure, however, relates to the police 'in Scotland'. One way to interpret this regression path is therefore that people use the experience of police behavior during encounters as a heuristic for making judgments about how effective the police are in a general sense. There are, of course, likely to be important feedback loops here – the extent to which people trust the police in a general sense is likely to influence how they experience specific encounters – but, given this survey context wherein all respondents had recent contact with police, it seems justifiable to specify the relationship between a specific judgment about police activity (stop procedural justice) and a general measure (trust in police effectiveness) in this manner.

Second, conditioning on procedural justice, the identity measure had an independent statistical effect on legitimacy that was moderately large in magnitude. The indirect statistical effect of procedural justice on legitimacy, via citizen identity, was significant ($\beta = .10$; $p < .0005$). Trust in police effectiveness was also strongly correlated with legitimacy (the indirect statistical effect of stop procedural justice on legitimacy, via effectiveness, was also significant; $\beta = .20$; $p < .0005$). Note however that the path from personal morality to legitimacy was not significant in the model.

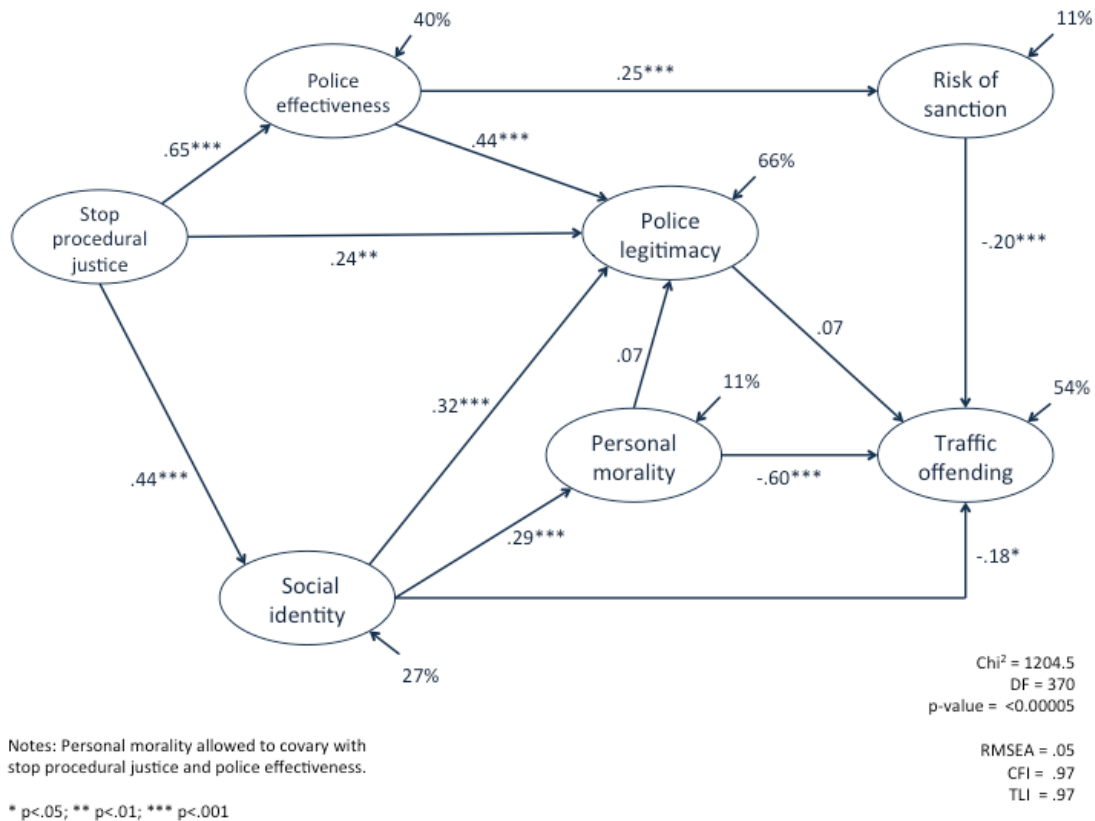
Third, conditioning on the other variables in the model there was a strongly significant association between social identity and personal legal morality. People who identified more strongly as 'Scottish citizens' tended to believe it was more wrong to break traffic laws than those who identified less strongly.

Fourth the most important predictor of traffic offending was, perhaps not surprisingly, personal morality. Respondents who thought it was wrong to commit traffic offences were less likely to say they would do so in the future. Fifth, conditioning on this association, there was a significant, moderately strong path from identity to offending – with stronger identifiers feeling they would be less likely to commit traffic offences in the future. The indirect path from social identity of offending was also significant ($\beta = -.08$; $p < .0005$), and the total effect was $\beta = -.33$ ($p < .0005$).

Sixth, and perhaps most interestingly, conditioning on the other variables in the model there was *no* significant association between police legitimacy and offending. Appendix Table 2 shows there was a relatively strong pairwise correlation between legitimacy and offending, and this persisted in multivariate models that excluded the social identity variable (results obtainable from the lead author); it was only on addition of social identity that the link between legitimacy and compliance was broken.

Finally, perceived risk of sanction also predicted self-assessed propensity to commit traffic offences. Respondents who thought it more likely they would be caught if they committed an offence were, on average, less likely say they would commit such an offence in the future.

Figure 2: SEM predicting self-assessed propensity to comply with traffic laws



Note also the R^2 values of some of the endogenous latent variables. Strikingly, for the offending measure $R^2 = .54$; over half of the variation in self-reported propensity to offend was explained by, primarily, personal morality, risk, and social identity (as defined). For legitimacy $R^2 = .66$, with variation in procedural justice, police effectiveness and citizen identity all making a contribution to explaining variation in police legitimacy.

6. Discussion and conclusions

As envisaged by our research hypotheses, the experience of procedural justice during encounter with officers appeared to enhance perceptions of police legitimacy. In line with other recent studies in this area (Bradford 2014; Bradford et al. 2014), the experience of procedural justice was also associated with stronger identification with the group the police represent. Moreover, group identification did indeed appear to mediate some of the association between procedural justice and police legitimacy. As proposed by group engagement models of procedural justice, it seems that the experience of fairness at the hands of the police, an authority of the group, not only enhances identification with the group but also, partly because of this, motivates legitimation of the authority concerned.

Concerning the measure of offending, as predicted people who perceived a greater risk of sanction said they were less likely to say they would commit traffic offences, as did respondents who identified more strongly as ‘upstanding’ Scottish citizens and, most

importantly, those who believed it was wrong to break the laws concerned. However, there was no independent statistical effect of legitimacy on self-assessed propensity to offend. Our findings therefore support the idea that there are both instrumental and norms-based ‘pathways’ to compliance with traffic laws. Importantly for police, demonstrating that offending carries a risk *and* treating people with fairness and respect may bring a return in terms of increased compliance with traffic offences (the total indirect effect of stop procedural justice on compliance was $\beta = -.11$, $p = .001$). Yet, we find, unlike other studies, that in our data it is social identity, not legitimacy, which forms the ‘bridge’ linking procedural justice and compliance.

Implications

In as much as they highlight the role of social identity in predicting compliance related behavior, the findings described above suggest there is an important pathway from procedural justice to compliance that, in a sense, bypasses the issue of legality (police legitimacy has been linked to compliance because it is thought legitimization of legal authorities encourages internalization of the idea that it is right to obey the law *because it is the law*). Indeed the legality of behaviors on the road is, arguably, not often uppermost in driver’s minds; many do not regard minor traffic offences as crimes at all (Blincoe et al. 2006), which may complicate the link between police legitimacy and compliance in such situations. One interpretation of our results, however, is that people don’t abide by traffic regulations because they are laws, but because the activities proscribed are potentially harmful to others, and their sense of the importance of avoiding harm to others is enhanced when their identification with superordinate groups is activated – hence, when identification with the ‘Scottish’ community increases, propensity to engage in activities that might harm others in this group diminishes. This may partly explain the absence of a link between police legitimacy and compliance with traffic laws once social identity is taken into account.

Research on the behavior of drivers seems to support the idea that people’s relationships with others are indeed important, as well as suggesting another reason why social identity may be linked to compliance in this context. The traffic system has been defined as a social environment in which drivers interact and influence each other’s driving decisions (Haglund and Åberg 2000). Studies concerned with why people speed, for example, have found that they base their decisions partly on what they perceive others to be doing – when they think other drivers are complying with speed limits, they are more likely to do so themselves (Åberg et al. 1997). People are also more likely to comply with traffic laws when they think others in their immediate social environment – other road users – will think badly of them if they break those laws (Haglund and Åberg 2000, Åberg et al. 1997). It may be that activation of social ties, via positive identification with a superordinate social group, enhances the subjective importance of the views of others, and encourages self-regulatory behavior, as well as willingness to regulate or address the actions of others, because the individual feels ‘closer’, more connected, to others in their environment (Anderson and Ormston 2010, Anderson and Dobbie 2008); this may be another reason why we find a relatively strong association between social identity and views on the morality of traffic offending in our model.

Our findings also have implications beyond the immediate realm of road traffic policing. Police activity, seen in the light of the analysis presented above, can be a provider of social glue (or solvent) that strengthens (or weakens) people’s social ties and their readiness to behave in a pro-social ways. Various strands of research have suggested that trust in the police and/or police legitimacy may be one factor that strengthens, indeed enables the development of, collective efficacy in local areas (Silver and Miller 2004; Wells et al. 2006; Kochel 2012). In as much as police activity fosters a stronger community orientation among citizens, this may encourage social trust, strengthen social networks, and enable shared norms that combine to enhance the overall ‘social capital’ of a community (Paterson 2002), which, combined with an increased propensity to draw on the police as additional means of regulation, builds greater collective efficacy and resilience (communities where residents can draw on police resources are better able to regulate themselves than those that, for whatever

reason, feel they cannot or should not cooperate or work with police). The evidence presented here may provide a further way of conceptualizing the links between trust in the police and collective efficacy, since it suggests that in as much as it strengthens people's social identities (of the type described above) procedurally just policing will encourage people not only to cooperate with police, or avoid breaking the law, but to take more account of others around them and moderate their behavior to avoid harm. On this account, police behavior can not only promote self-regulation in the future, but also strengthen people's affective links with others who are not police but with whom they feel they share social group membership.

The kind of social identification that procedurally fair policing seems to encourage may thus have wider implications than previously thought. It may not just strengthen the links between police and community; it may also strengthen links *within* the community by activating social identities ('law-abiding Scottish citizen') that almost all people can share. On the other hand, of course, the implication is that procedurally unfair policing promotes not just division between police and community but also division *within* the community, via the generation of more exclusionary social identities as people turn away from the group the police represent, or perhaps social atomization and a general weakening of social ties.

Limitations of this study

As well as the normal limitations of a study of this kind – such as the use of cross-sectional 'snap-shot' survey data and measurement of attitudes and intentions rather than behaviors – it must be remembered that the analysis draws upon a sample that probably exhibits relatively strong levels of community membership or 'embeddedness' (evidenced, perhaps, by their willingness to participate in the survey). Socially embedded individuals typically are community oriented in their beliefs and actions, with a propensity to believe in, and contribute to the development of, social cohesion (Paterson 2002). However, levels of embeddedness are known to vary according to factors such as age, education level and deprivation (at household and area level). Thus, the relationships discussed here could stand to be tested further on a sample that was less skewed towards older, more affluent respondents. In the same vein, Scotland is a country with high levels of social cohesion overall (ibid.). Support for, and trust in, institutions and authorities to intervene to address social and economic problems is also high (Curtice and Ormston 2012, Anderson and Ormston 2010, Anderson and Dobbie 2008, Paterson, Bechofer and McCrone 2004). Replication of the model presented here in other contexts is needed to draw firmer conclusions.

We should also underline that our ultimate response variable represented intentions to infringe traffic regulations, rather than actual illegal behaviors. While intentions to offend have been used in many studies as proxies for illegal behaviors, this approach is not without its critics (Lyn Exum and Bouffard 2012). Correlations between intentions and real world behaviors, while identified in many studies (ibid.), may be context dependent, and particularly problematic in criminal justice settings. With this in mind, the results described above should be interpreted with some caution.

Rethinking the place of legitimacy in procedural justice theory?

We close with two final thoughts. First, from a policy perspective, the findings presented here both support and go beyond current approaches to preventing traffic offending. The drivers in our sample were indeed 'in-tune' to the risk of sanction, and were less likely to report a propensity of offend if they thought the risk of sanction was high. To this extent, a sanction-lead road-policing regime appears an effective way to proceed. Yet, procedural justice during routine road policing encounters also predicted compliance, suggesting a need to consider normative compliance even in an area that might be considered as dominated by instrumental concerns. In short, as in so many other areas of policing, the relationship between officer and citizen, and the way in which the former deals with the latter, can have important downstream implications.

Second, from a theoretical perspective a particularly striking implication of our findings is that, given the central place of social identity in procedural justice theory, and the

empirical correlation between social identity and legitimacy, models that show legitimacy predicting compliance may actually be picking up the effect of social identity. Absent social identity, legitimacy was associated with compliance in the 'normal' manner (see the correlation matrix in the Appendix). Yet, upon the introduction of social identity this link was broken. While more work is needed on this question, it may be that social identity plays an even more important role in procedural justice theory than hitherto suspected.

References

- Åberg, L. Larsen, L., Glad, A. and Beilinson, L. (1997) Observed vehicle speed and driver's perceived speed of others. *Applied Psychology: An International Review* 46(3): 287-302.
- Anderson, S. and Dobbie, F. (2008) *Attitudes Towards Youth Crime and Willingness to Intervene: Findings from the 2006 Scottish Social Attitudes Survey*. Edinburgh: Scottish Government.
- Anderson, S. and Ormston, R. (2010) *Scottish Social Attitudes Survey 2009: Local Issues, National Concerns: Public Attitudes to Antisocial Behaviour in Scotland*. Edinburgh: Scottish Government
- Blackwood, L. M., Hopkins, N. & Reicher, S. D. (2013) I know who I am, but who do they think I am? Muslim perspectives on encounters with airport authorities. *Ethnic and Racial Studies* 36(6): 1090-1108.
- Blader S. and Tyler T.R. (2009), 'Testing and Extending the Group Engagement Model: Linkages Between Social Identity, Procedural Justice, Economic Outcomes, and Extrarole Behavior', *Journal of Applied Psychology* 94(2): 445-464.
- Blincoe, K. M., Jones, A. P., Sauerzapf, V., & Haynes, R. (2006). Speeding drivers' attitudes and perceptions of speed cameras in rural England. *Accident; Analysis and Prevention* 38(2), 371-8.
- Bradford, B. (2014), 'Policing and Social Identity: Procedural Justice, Inclusion and Cooperation Between Police and Public', *Policing and Society* 22(1): 22-43.
- Bradford, B., Quinton, P., Myhill, A., & Porter, G. (2013). Why do "the law" comply? Procedural justice, group identification and officer motivation in police organizations. *European Journal of Criminology* 11(1), 110-131.
- Bradford, B., Murphy, K., & Jackson, J. (2014). Officers as Mirrors: Policing, Procedural Justice and the (Re)production of Social Identity. *British Journal of Criminology* 54(4): 527-550.
- Burke, P.J. and Stets, J.E. (2009). *Identity Theory*. Oxford: Oxford University Press.
- Committee to Review Research on Police Policy and Practices (2004). *Fairness and Effectiveness in Policing: The Evidence*. Washington, DC: The National Academies Press.
- Curtice, J. and Ormston, R. (2012) 'Devolution: On the road to divergence? Trends in public opinion in Scotland and England' in Park, A. Curtice, J. Phillips, M. and Utting, D. (eds) (2012) *British Social Attitudes: The 28th Report*, London: National Centre for Social Research.
- Darley, J., Fulero, S, Haney, C & Tyler, T. (2002), 'Taking Psychology and Law into the Twenty-First Century', in J. R.P. Ogloff (Ed.) *Psychological Jurisprudence*. Springer: 35-59.
- Ericson, R (1975), *Criminal Reactions: The Labeling Perspective*. London: Ashgate.
- Haglund, M., & Aberg, L. (2000). Speed choice in relation to speed limit and influences from other drivers, 3, 39-51.

- Horne, C. (2009). A Social Norms Approach to Legitimacy. *American Behavioral Scientist*, 53(3), 400–415.
- Hough, M., Jackson, J. and Bradford, B. (2013a). ‘The governance of criminal justice, legitimacy and trust’, in Body-Gendrot, S., Lévy, R., Hough, M. Snacken, S. and Kerezsi, K. (eds.) *Routledge Handbook of European Criminology*. Routledge, pp. 243-265.
- Hough, M., Jackson, J. and Bradford, B. (2013b). ‘Legitimacy, trust and compliance: an empirical test of procedural justice theory using the European Social Survey’, in Tankebe, J. and Liebling, A. (eds.) *Legitimacy and Criminal Justice: An International Exploration*. Oxford University Press, pp. 326-352.
- Huizinga, D., Schuman, D. K., Ehret, B. and Elliot, A. (2003), *The Effects of Juvenile Justice Processing on Subsequent Delinquent and Criminal Behaviour: A Cross-National Study*, Final Report to the National Institute of Justice.
- Jackson, J., Bradford, B., Hough, M., Kuha, J., Stares, S. R., Widdop, S., Fitzgerald, R., Yordanova, M. and Galev, T. (2011). ‘Developing European indicators of trust in justice’, *European Journal of Criminology*, 8, 4, 267-285.
- Jackson, J., Bradford, B., Hough, M., Myhill, A., Quinton, P., and Tyler, T. R. (2012a). Why do people comply with the law? Legitimacy and the influence of legal institutions. *British Journal of Criminology*, 52, 6, 1051–1071.
- Jackson, J., Bradford, B., Stanko, E. A. and Hohl, K. (2012b), *Just Authority? Trust in the Police in England and Wales*. Routledge.
- Jackson, J., Huq, A. Z., Bradford, B., and Tyler, T. R. (2013). ‘Monopolizing force?: Police legitimacy and public attitudes towards the acceptability of violence’, *Psychology, Public Policy and Law*, 19, 4, 479-497.
- Kelman H.C. (1958). ‘Compliance, identification, and internalization: Three processes of attitude change. *Journal of Conflict Resolution* 2(1):51-60.
- Kochel, T. R. (2012), ‘Can Police Legitimacy Promote Collective Efficacy?’, *Justice Quarterly*, 29(3): 384-419.
- Mazerolle, L., Bennett, S., Antrobus, E. and Eggins, E. (2012) ‘Procedural justice, routine encounters and citizen perceptions of the police: Main findings from the Queensland Community Engagement Trial (QCET)’ *Journal of Experimental Criminology* 8(4): 343-366
- Mazerolle, L., Bennett, S., Eggins, E., Antrobus, E., White, G. and Davis, J. (2011) *Testing police legitimacy...one breath at a time: The Queensland Community Engagement Trial Technical Report*, Brisbane: ARC Centre of Excellence in Policing and Security
- McAra, L. and McVie, S. (2007), ‘Youth Justice?: The Impact of System Contact on Patterns of Desistance from Offending’, *European Journal of Criminology*, 4: 315–45.
- McAra, L. and McVie, S. (2012), ‘Negotiated Order: The Groundwork for a Theory of Offending Pathways’, *Criminology and Criminal Justice*, 12: 347-375.
- McCrone, D (2005) ‘The same but different: why Scotland?’ Presented at the Annual Seminar of the BSA Scottish Studies Study Group 27th September 2005 http://www.institute-of-governance.org/publications/wrking_papers/the_same_but_different

- Murphy, K., Tyler, T.R. and Curtis, A. (2009). 'Does procedural justice help authorities when people question the underlying legitimacy of the law?' *Regulation and Governance* 3: 1-26.
- Nagin, D. S. (2013). 'Deterrence in the 21st Century: A Review of the Evidence', in M. Tonry, ed., *Crime and Justice: An Annual Review of Research*. Chicago: University of Chicago Press.
- Papachristos, A. V., Meares, T. L., and Fagan, J. (2012). 'Why do criminals obey the law? The influence of legitimacy and social networks on active gun offenders', *Journal of Criminal Law and Criminology*, 102, 2, 397-440.
- Paterson, L. (2002) 'Social Capital and Constitutional Reform' in Curtice, J. McCrone, D. Park, A. and Paterson, L. (2002) *New Scotland, New Society?*, Edinburgh: Polygon
- Paterson, L. Bechofer, F. and McCrone, D. (2004) *Living in Scotland*, Edinburgh: Edinburgh University Press.
- Pratt, T.C., Cullen, F.T., Blevins, K.R., Daigle, L.E. and Madensen, T.D. (2006). The empirical status of deterrence theory: A meta-analysis. *Taking stock: The status of criminological theory* 15: 367-396.
- Richter, E. D., Berman, T., Friedman, L., & Ben-David, G. (2006). Speed, road injury, and public health. *Annual Review of Public Health* 27:125-52.
- Sherman, L. (1993) 'Defiance, Deterrence and Irrelevance: A Theory of the Criminal Sanction', *Journal of Research in Crime and Delinquency* 30(4): 445-73.
- Silver, E. and Miller, L. (2004), 'Sources of Informal Social Control on Chicago Neighbourhoods', *Criminology* 42(3): 551-584.
- Stott, C.J., Hoggett, J., and Pearson, G. (2011). "'Keeping the Peace": social identity, procedural justice and the policing of football crowds', *British Journal of Criminology* 52(2): 381-399.
- Sunshine, J., & Tyler, T.R. (2003). The role of procedural justice and legitimacy in shaping public support for policing. *Law and Society Review*, 37, 513-548.
- Tajfel, H., and Turner, J. C. (1979). 'An integrative theory of intergroup conflict', *The social psychology of intergroup relations* 33: 47.
- Taylor, M.C., Lynam, D.A. and Baruya, A. (2000) *The effects of driver's speeds on the frequency of road accidents*. Transport Research Laboratory Report 421. Crowthorne: TRL.
- Transport Scotland (2013) *Reported Road Casualties Scotland 2012*. Edinburgh: Scottish Government.
- Tyler, T. R. (2006a). *Why People Obey the Law* (2nd edition). New Haven: Yale University Press.
- Tyler, T. R. (2006b). 'Psychological perspectives on legitimacy and legitimation', *Annual Review of Psychology* 57: 375-400.
- Tyler, T.R. (2009). 'Procedural justice, identity and deference to the law: What shapes rule following in a period of transition?', *Australian Journal of Psychology*, 61: 32-39.

Tyler, T.R. (2011a). Trust and legitimacy: Policing in the USA and Europe, *European Journal of Criminology* 8: 254-266.

Tyler, T.R. (2011b). *Why people cooperate*. Princeton: Princeton University Press.

Tyler T.R. and Blader, S. (2000). *Cooperation in groups: Procedural justice, social identity, and behavioral engagement*. Philadelphia, Pa.: Psychology Press.

Tyler, TR and Blader, S. (2003), 'Procedural Justice, Social Identity, and Cooperative Behavior', *Personality and Social Psychology Review* 7: 349-361.

Tyler, T. R. and Huo, Y. J. (2002). *Trust in the Law: Encouraging Public Cooperation with the Police and Courts*. New York: Russell-Sage Foundation.

Tyler, T. R. and Jackson, J. (2014). 'Popular legitimacy and the exercise of legal authority: Motivating compliance, cooperation and engagement', *Psychology, Public Policy and Law*, 20(1): 78-95.

Wells, W. Schafer, J.A., Varano, S.P. and Bynum, T.S. (2006) 'Neighborhood Residents' Production of Order: The Effects of Collective Efficacy on Responses to Neighbourhood Problems', *Crime and Delinquency* 52(4): 523-550.

Wiley, S. A and Esbensen, F-A. (2013), 'The Effect of Police Contact: Does Official Intervention Result in Deviance Amplification?' *Crime and Delinquency*, Advance Access doi: 10.1177/0011128713492496.

Appendix table 1: Measurement model for SEM shown in Figure 2

	Standardized Factor Loadings
Traffic offending	
Break the speed limit while out driving	0.73
Jump a red light if you are in a hurry	0.63
Risk of sanction	
Breaking the speed limit while out driving	0.90
Jumping a red light	0.80
Morality of offences	
Breaking the speed limit while out driving	0.88
Jumping a red light	0.79
Procedural justice during traffic stop	
Approachable and friendly	0.92
Helpful	0.90
Respectful	0.97
Professional	0.95
Fair	0.94
Clear in explaining why you had been stopped	0.68
Trust in police effectiveness	
Prevent crime	0.87
Respond quickly to appropriate calls from the public	0.83
Deal with incidents as they occur	0.88
Solve crimes	0.95
Catch criminals	0.96
Keep people safe	0.89
Social identity	
I see myself as a member of the Scottish community	0.72
It is important to me that others see me as a member of the Scottish community	0.73
I see myself as an honest, law abiding citizen	0.82
It is important to me that others see me as an honest, law-abiding citizen	0.86
Police legitimacy	
I feel a moral obligation to obey the police	0.69
I feel a moral duty to support the decisions of police officers, even if I disagree with them	0.62
I feel a moral duty to obey the instructions of police officers, even when I don't understand the reasons behind them	0.62
The police have the same sense of right and wrong as me	0.80
The police stand up for values that are important for people like me	0.88
I support the way the police usually act	0.88

Appendix table 1: Correlations between latent variables

	1	2	3	4	5	6	7
Traffic offending (1)	1						
Risk of sanction (2)	-0.31	1					
Personal morality (3)	-0.66	0.43	1				
Stop procedural justice (4)	-0.27	0.23	0.48	1			
Trust in police effectiveness (5)	-0.36	0.22	0.43	0.62	1		
Social identity (6)	-0.40	0.20	0.40	0.33	0.35	1	
Police legitimacy (7)	-0.35	0.20	0.46	0.64	0.66	0.46	1